Research Regarding the Hybrids Resulted from the Domestic Pig and the Wild Boar

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Abstract
Research was conducted between 2005-2009 in Barzava, Arad county. The villagers breed pigs traditionally, the animals having the freedom to roam the outskirts of the villages. Over the years the domestic sows (Sus scrofa domesticus) which had been let by their owners to roam the forests for mast and acorn, have mated with wild boars (Sus scrofa ferus), thus obtaining crossbreeds in various colours – either resembling the female or the male. In Barzava the total number of swine is 1820 specimens out of which 546 is formed by hybrids or crossbreeds in 2009. In the case of these hybrids the length of the head together with that of the trunk can reach 150-170 cm. An adult male can have a weight of 150-200 kg and the female 100-150 kg. These specimens are easily recognizable by the fact that they have the trunk covered in thick, long, spiky hairs. There are also other external characteristics of these crossbreeds. Data has been gathered on what concerns the colour and the length of the hair, external features, maintenance and feeding. Behavioural observations have been made also. The local people appreciate a lot these hybrids because of their qualitative meat, out of which they obtain traditional dishes, combining this meat with that from domestic pigs and veal. Moreover, the maintenance of these hybrids is very low-cost, the only conditions which have to be met being simple shelters during the night and during the winter. The demand for such animals is great. These hybrids are being bought by the Zoos or are used for repopulating the areas in which the wild boars are on the verge of extinction because of excessive poaching. Foreign buyers are also interested in these hybrids, wanting to breed them in special parks and then to organize hunting outings.

Keywords: hybrid pigs, zoogenetic biodiversity

1. Introduction
Raising domestic swine in pastoral system is traditional in a few areas in Romania, particularly in the Danube Delta, some areas of the Danube Valley, and in the area between Sâvârșin and Bârzava. In this raising system, there are cases of crossing between wild boars and domestic swine resulting in hybrids known for a long period of time under the name of “cottage swine”. As a polygamous species, wild boar has, under normal conditions, a surplus of males above the number required to fecundate sows. This surplus of boars making up the floating mass of males travels considerable distances in search of females, mating sometimes with domestic sows.

There are few data on these hybrids in literature: some works published by Meynhardt (1994), Selariu (1995), and Dinu & Drăgănescu (2000). These hybrids used to occur sporadically until 1995, when owing as many hybrids of this type as possible became a true business among natives. All this is the result of ever higher demands for repopulating areas where they practice hunting, including foreign countries or zoological gardens.
2. Material and methods

Research was carried out between 2005 and 2009 on the territory of the Commune of Bârzava (Arad County). As forest strips are close to the villages, domestic sows in heat attract wild boars while grazing. For instance, swine from the village of Conop are taken to the pasture both in winter and in summer. Because domestic swine are not monitored and because of the large number of wild boars in the area mating between domestic sows and wild boars cannot be prevented. Mating results in hybrids whose numbers have increased variably these years. Through several systematic observations in the area, we collected numerous data on the hybrids resulted from the mating between domestic swine and wild boars. Our research has been documented by a large number of photos and films.

We applied questionnaires to the hybrid breeders, no matter the number of hybrids. These breeders raise domestic swine of different breeds – Bazna, Large White, White of Banat, and Mangalitza. From different economic reasons, the swine are kept free all the year round on the pastures in the forests around the villages on the area of the Commune of Bârzava, the animals being kept in sheds only during the night. The strips of oak and beech forests intertwined with pastures and orchards on the area of the rivers Bârzava and Mureș make the area populated by wild boars an excellent area for free raising of domestic swine.

We collected data concerning the colour, the hair, and the aspect of the hybrids, together with the maintenance and nutrition, the behaviour and evolution in numbers of these hybrids. We permanently monitored the health state of the hybrids.

Assessing results has been done using statistic analysis methods.

3. Results and discussion

In 2009, the total number of swine in the Commune of Bârzava was 1820. Of these 1820 animals, 546 are hybrids between the domestic swine and the wild boar, including offspring from hybrid mating. Establishing the large number of hybrids over the years was done with great difficulty since there are no official records: moreover, these hybrids have been recorded officially as domestic swine. The exact number is known only for the period 2005-2007. For the other years, assessing the number of hybrids was done based on the statements made by the breeders and by the sanitary and veterinary authorities.

The figure shows that between 2002 and 2009, the number of hybrids was decreasing. For 2010, they estimate half of the number of hybrids in 2009.

Aspect. Hybrids are, on the whole, animals with a short trunk and long legs. The head is prolonged a little bit wider than that of the wild boar, with a long snout and a slightly concave profile). Boars have long, strong fangs. The eyes are small. The ears are in general short, wider, erect, and they shake a little. The neck is long and slender. The trunk is more developed frontally than in the rear, and measure in most animals 150-170 cm from head to tail. As adults, boars can reach a body weight of 150-200 kg, while sows reach 100-150 kg. Height at withers is about 88.7 cm. The areas along the higher line of the trunk are narrow, and the limbs are long and strong. The “shield” is thinner than in the wild boar, but muscular mass are pretty well visible. Unlike wild boar, the tail is more or less “screw-driver” like.

Its temper is relatively kind, and it is continuously exploring the environment. Its behaviour is very close to that of the wild boar, being active for about 8-10 hours a day of which about 80% is used to forage for food. The behaviour of these hybrids prevents people from approaching them. Thus, during photo shots, we could approach them with great difficulty because of their irritation.

Hair and colour. The trunk is covered with thick, harsh, abundant hairs 6-10 mm long. Along the
upper line of the neck, the 12-cm hairs make up a “mane”.

The colour of the hybrids can be black, brown, grey, reddish, light yellowish, or spotted. In some hybrids of the breed Bazna they preserve the black colour and the white belt (a pattern transmitted by a pair of genes). Others are white with black spots or black with a white “mane”. During our research, we identified three albino cases. Unlike the wild boar, these hybrids are characterized by the white-spotted snout. Many piglets have, during their first weeks of life, lighter longitudinal stripes along the body.

Maintenance. The shed is in general made of wood or brick and it contains one or more boxes for the night. During the day, the animals are taken to the pasture in the forests near the villages. Some sheds have the walls made of white-painted bricks, and the front wall is made of wood. The skeleton of the building is made of wood covered with tiles and inside the boxes there are floorings covered with straw or hay particularly during the winter because the boxes are not insulated. Each box has a single way out. In this type of shed, feeding is done inside the box. At the basis there is a closure with an iron fence to prevent the swine from digging around the closure. The closure is paved with concrete to prevent swine from running away of the box.

Another type of shed is made of wood and paved with wood, with a single way out, but without a closure. The shed is covered with wooden sheets on which the breeders lay layers of leaves to create an environment as close to the nature as possible for the wild boar. The swine are kept in the shed during the night, and feeding is done outside. This type of shed is built only in the forest area, where the swine are free during the day.

Feeding. Hybrids that are kept in the shed and never leave it to go grazing on the pasture are fed from troughs made of wood or concrete inside or outside the shed. For watering, they use troughs similar to feeding ones. Feed consists of maize supplied as grains or as ears or ground grains, maize mixed with barley, wheat, or soy. There are breeders that purchase concentrated feeds to help weight gain. Some breeders supply frequently whey. Most owners of hybrids take them to the pasture in the morning, or to be more exact they take the animals out to the yard and they go to the pasture by themselves, since they know the route very well. In the evening they come back to their sheds. Breeders supply them bran mixed with food debris from the breeder’s household, all mixed with warm water and with different fats. It is important to note that the fodder they get in the evening pleases them, since this attracts them back home from the pasture in the evening. Otherwise, they stay in the field or in the forest until the next day or they may even get lost. There are also conflicts generated by their presence in the cereal or potato crops of other farmers producing great losses. Free swine drink their water directly from the river Bârzava that flows nearby.

Hybrids kept on the pasture achieve a weight gain of about 300 g daily grow easily with low-quality fodder. Before leaving in the morning for the pasture, they get maize and water. The pastures in the area are not high-quality pastures; nevertheless, they have a spontaneous and varied floristic composition. These pastures are not maintained by the farmers, there are no cleaning, fertilising, or seeding works. In July-August, the pastures are already yellow, sunburnt and, here and there, compacted. An adult male hybrid eats about 9-10 kg of green feed daily, while an adult female hybrid eats 7-8 kg.

Since they bear with difficulty the high temperatures of the summer, the animals go to the pasture only in the morning and in the evening or they withdraw in the forest.

Reproduction. Sows deliver 7-12 piglets that are weaned about 8 weeks after they were born: half of them can be hybrids. After weaning, the sows leave for the forest together with the boars.

Health. Hybrids are resistant to diseases, wether excesses, and maintenance. During the experiment we noticed weak animals with shallow abdomen and narrow chest. They had brittle hairs and even hairless areas on the body.

Meat production. Carcasses from these hybrids have a thin layer of fat, little persilled and fitted for preservation. The perception of the public that products from hybrids are healthier increased the demand for these meat products. Hybrids are sold mostly as live animals weighing 90-110 kg. Very few animals are slaughtered in the breeder’s yard: they prepare bacon and sausages after traditional recipes, with a mixture of pork from domestic swine and beef.
4. Conclusions

These hybrids are easy to breed since feeding and maintaining them requires minimal investments. Hybrids are resistant to diseases and they rarely require the intervention of specialists (veterinary services are very expensive).

The number of hybrids from wild boar and domestic swine increased between 1991 and 2008, because of the increased demand for higher populations on the hunting grounds.

The number of hybrids is expected to increase dramatically during the next years because less and less breeders choose to breed them (the population in the area is getting older and older).

Hybrid meat is well suited for the production of cold meats that are long-lasting if prepared traditionally.

In order to identify hybrids accurately, we need to sample DNA since genetic identification is the best method to do it.

We suggest the introduction of the Tipy-fix method for a quick and easy sampling.

References

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